Anex

Kolink SFX-450

Lab ID#: KL45001788
Receipt Date: Jun 27, 2021
Test Date: Feb 4, 2021

Report: 21PS1788A
Report Date: Feb 8, 2021

DUT INFORMATION

Brand	Kolink
Manufacturer (OEM)	
Series	SFX
Model Number	
Serial Number	1942090011491450BRP1H02000128
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	230
Rated Current (Arms)	3.5
Rated Frequency (Hz)	50
Rated Power (W)	450
Type	SFX
Cooling	80mm Sleeve Bearing Fan (S0801512H)
Semi-Passive Operation	✗
Cable Design	Fixed cables

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	21	22	36	3	0.5
	Watts	120		432	15	6
Total Max. Power (W)		450				

CABLES AND CONNECTORS

Captive Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (360mm)	1	1	18-22AWG	No
4+4 pin EPS12V (400mm)	1	1	18-20AWG	No
6+2 pin PCIe (500mm+110mm)	1	2	18-20AWG	No
SATA (300mm+150mm) / 4-pin Molex (+150mm)	2	4 / 2	20AWG	No

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RESULTS	
Temperature Range (°C /°F)	30-32 / 86-89.6
ErP Lot 3/6 Ready	ErP Lot 6 2010: ✓ ErP Lot 6 2013: ✓ ErP Lot 3 2014 & CEC: Partially
(EU) No 617/2013 Compliance	✓

230V	
Average Efficiency	83.902%
Average Efficiency 5VSB	74.944%
Standby Power Consumption (W)	0.2287990
Average PF	0.979
Avg Noise Output	38.31 dB(A)
Efficiency Rating (ETA)	
Noise Rating (LAMBDA)	S+

TEST EQUIPMENT	
Electronic Loads	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Keysight AC6804B
Power Analyzers	N4L PPA1530 x2
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2
Tachometer	UNI-T UT372 x2
Digital Multimeter	Keysight U1273AX, Fluke 289, Keithley 2015 - THD
UPS	CyberPower OLS3000E 3kVA x2

HOLD-UP TIME & POWER OK SIGNAL (230V)	
Hold-Up Time (ms)	7.7
AC Loss to PWR_OK Hold Up Time (ms)	24.9
PWR_OK Inactive to DC Loss Delay (ms)	-17.2

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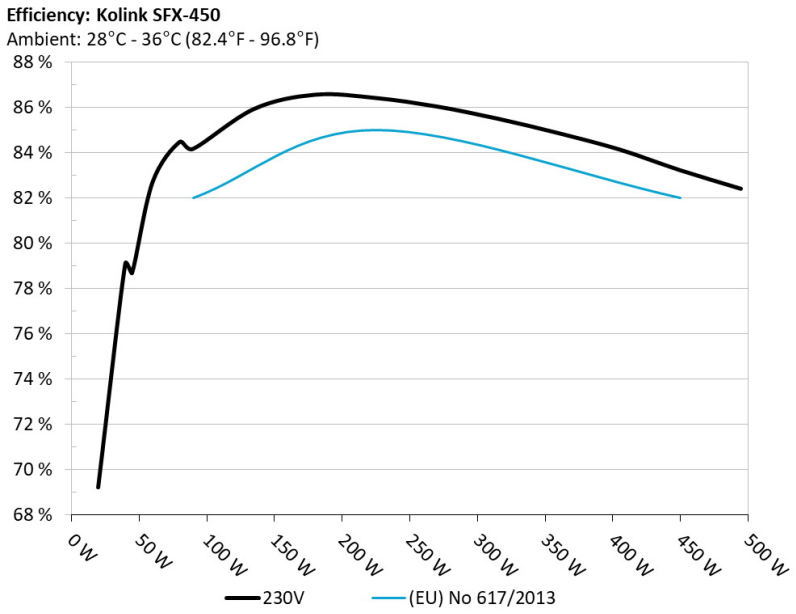
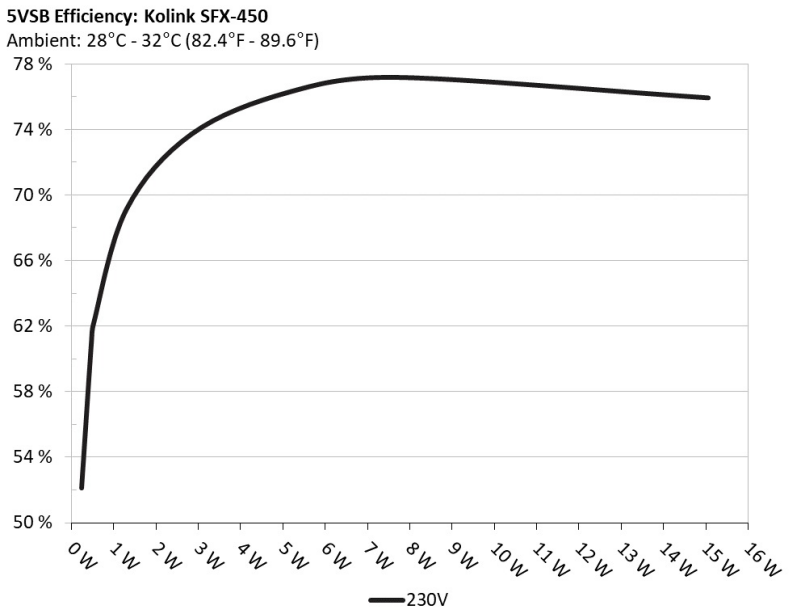
EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE



INFO

The PSU`s efficiency under high ambient temperatures with 115V and 230V input. For this graph the results of the 10-110% load regulation table are used

5VSB EFFICIENCY



INFO

This graph depicts the efficiency levels of the 5VSB rail with 115V and 230V input

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5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.232	52.135%	0.029
	5.159V	0.445		230.35V
2	0.090A	0.464	61.053%	0.049
	5.157V	0.760		230.35V
3	0.550A	2.827	73.697%	0.202
	5.139V	3.836		230.35V
4	1.000A	5.121	76.251%	0.286
	5.120V	6.716		230.34V
5	1.500A	7.662	77.160%	0.337
	5.107V	9.930		230.34V
6	3.000A	15.049	75.913%	0.406
	5.016V	19.824		230.34V

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230V

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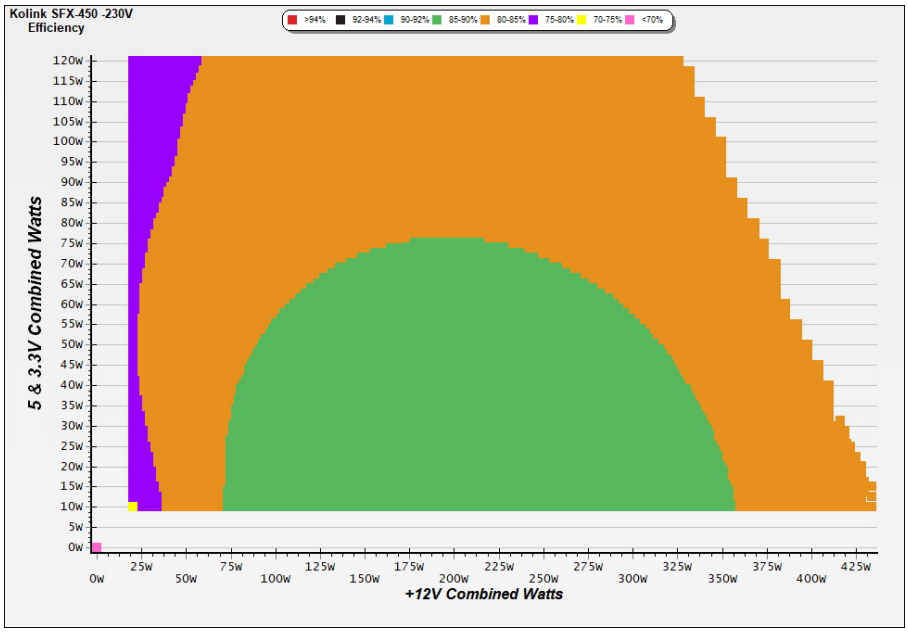
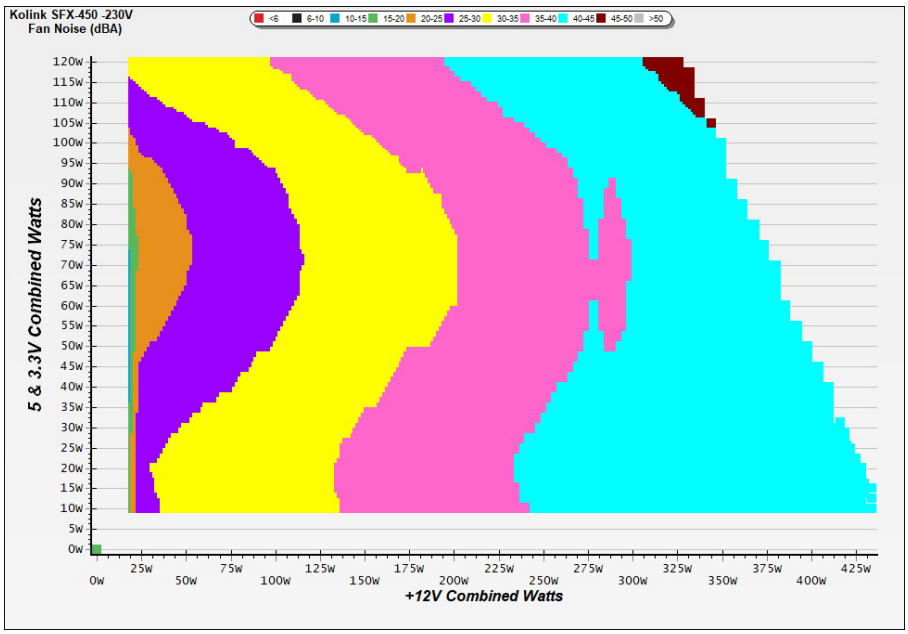
EFFICIENCY GRAPH 230V



INFO

This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

NOISE GRAPH 230V



INFO

The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

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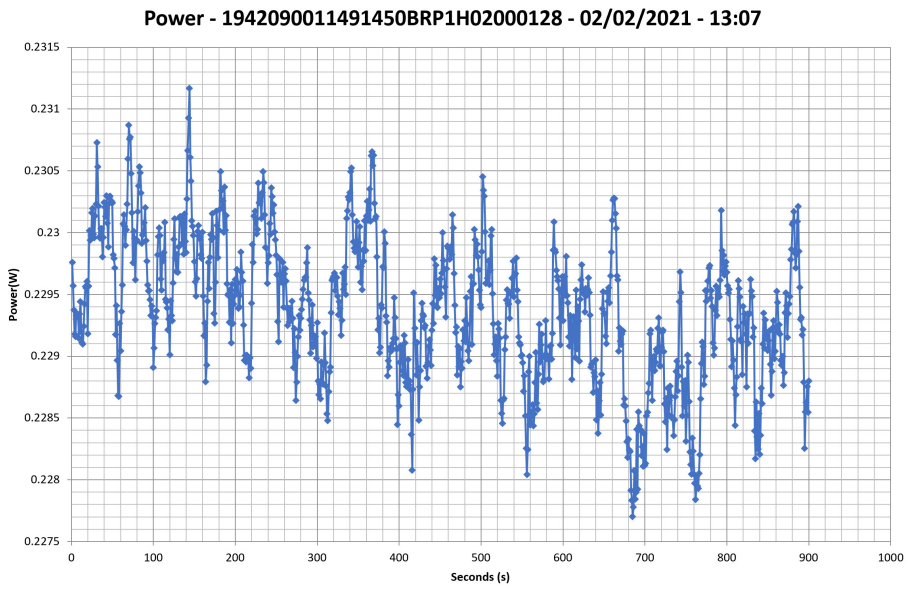
VAMPIRE POWER -230V



INFO

This graph is generated by the PPA Standby Power Analysis software which takes full control of the power analyzer during the whole procedure. This application features all of the EN50564 & IEC62301 test limits for standby power software testing

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10-110% LOAD TESTS 230V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	1.948A	1.956A	1.973A	0.977A	44.957	78.679%	950	11.2	30.71°C	0.872
	11.989V	5.113V	3.345V	5.118V	57.140				35.15°C	230.38V
2	4.938A	2.942A	2.966A	1.176A	90.015	84.170%	1064	13.2	31.08°C	0.946
	11.973V	5.098V	3.336V	5.101V	106.944				36.16°C	230.39V
3	8.288A	3.436A	3.471A	1.376A	135.012	85.934%	1380	20.4	31.63°C	0.967
	11.940V	5.094V	3.328V	5.086V	157.112				37.56°C	230.40V
4	11.658A	3.929A	3.976A	1.577A	180.006	86.564%	1607	25.4	32.38°C	0.977
	11.907V	5.090V	3.319V	5.073V	207.945				38.91°C	230.40V
5	14.670A	4.930A	4.983A	1.780A	224.999	86.417%	2019	31.7	32.88°C	0.983
	11.895V	5.072V	3.310V	5.057V	260.363				40.28°C	230.39V
6	17.688A	5.937A	6.000A	1.985A	269.985	86.043%	2260	35.0	33.09°C	0.986
	11.882V	5.055V	3.300V	5.040V	313.779				41.19°C	230.38V
7	20.722A	6.947A	7.021A	2.191A	315.056	85.501%	2515	37.9	33.99°C	0.986
	11.869V	5.038V	3.291V	5.021V	368.482				42.65°C	230.37V
8	23.748A	7.968A	8.040A	2.404A	360.022	84.860%	2628	39.1	34.83°C	0.987
	11.859V	5.021V	3.282V	4.992V	424.253				43.96°C	230.36V
9	27.289A	8.469A	8.553A	2.404A	404.851	84.142%	2903	42.9	35.47°C	0.987
	11.813V	5.017V	3.273V	4.993V	481.151				45.43°C	230.35V
10	30.575A	8.980A	9.096A	3.029A	449.680	83.224%	3082	45.5	35.72°C	0.987
	11.774V	5.011V	3.264V	4.953V	540.326				46.89°C	230.36V
11	34.574A	8.964A	9.118A	3.032A	494.508	82.405%	3121	46.1	36.02°C	0.986
	11.709V	5.019V	3.256V	4.948V	600.095				47.87°C	230.34V
CL1	4.000A	14.000A	14.000A	0.000A	163.252	79.886%	2667	40.1	33.26°C	0.977
	12.372V	4.830V	3.296V	5.093V	204.356				40.76°C	230.39V
CL2	36.004A	2.001A	1.999A	1.000A	433.323	84.028%	2780	40.5	35.68°C	0.987
	11.423V	5.211V	3.287V	5.051V	515.688				45.62°C	230.35V

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20-80W LOAD TESTS 230V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.243A	0.485A	0.493A	0.194A	19.986	69.204%	870	10.0	0.600
	11.933V	5.156V	3.355V	5.149V	28.880				230.41V
2	2.486A	0.973A	0.984A	0.389A	39.975	79.093%	919	9.9	0.848
	11.936V	5.145V	3.350V	5.139V	50.542				230.39V
3	3.733A	1.460A	1.480A	0.585A	60.004	82.677%	927	10.3	0.908
	11.936V	5.134V	3.345V	5.129V	72.576				230.39V
4	4.972A	1.952A	1.978A	0.781A	79.953	84.468%	941	11.1	0.938
	11.936V	5.124V	3.340V	5.119V	94.655				230.39V

RIPPLE MEASUREMENTS 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	32.70mV	17.60mV	21.50mV	16.30mV	Pass
20% Load	34.60mV	18.20mV	20.60mV	16.60mV	Pass
30% Load	35.60mV	18.00mV	20.30mV	16.80mV	Pass
40% Load	37.30mV	19.00mV	21.30mV	17.00mV	Pass
50% Load	37.20mV	19.30mV	20.60mV	17.00mV	Pass
60% Load	35.80mV	18.50mV	20.70mV	16.70mV	Pass
70% Load	34.20mV	18.40mV	20.90mV	17.40mV	Pass
80% Load	35.00mV	17.80mV	24.90mV	19.10mV	Pass
90% Load	35.80mV	18.00mV	22.80mV	18.50mV	Pass
100% Load	66.30mV	33.40mV	30.00mV	24.70mV	Pass
110% Load	70.10mV	34.40mV	27.90mV	25.70mV	Pass
Crossload1	58.80mV	29.50mV	33.90mV	33.40mV	Pass
Crossload2	61.70mV	28.80mV	22.40mV	20.70mV	Pass

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Top side

Power specifications label

CERTIFICATIONS 230V

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